



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,334	09/10/2004	Maarten Peter Bodlaender	NL 020197	4005
24737 7590 08/17/2007 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER KIM, EDWARD J	
			ART UNIT 2109	PAPER NUMBER
			MAIL DATE 08/17/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/507,334

Applicant(s)

BODLAENDER, MAARTEN PETER

Examiner

Edward J. Kim

Art Unit

2109

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date N/A.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Regarding claims 1, 2, and 7, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "special connection" is not defined anywhere in the application. It is unclear to the examiner what is exactly meant by the term, and therefore claim 1 fails to particularly point out and distinctly claim the subject matter which applicant regards as his invention. It is noted by the examiner that it is being treated as any other connection in a network for the purpose of examination.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Art Unit: 2109

6. Claim 6 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs are not physical "things". They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

M.P.E.P. 2601.1 Section I states, "Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and USPTO personnel should treat a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, as nonstatutory functional descriptive material."

Claim 6 does not provide the computer-readable medium needed to realize the program's functionality. As such, claim 6 is considered not to be statutory subject matter and is therefore non-statutory.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2109

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hudson (WO 01/30039 A1), in view of Aharoni et al. (US Patent #6014694).

Regarding claim 1, **Hudson** discloses, a method of speeding up a relay operation across an internetworking connection, such as a TCP-connection, between a client device in a first location and a server device in a second location in a network which comprises multiple access nodes or communication paths between said client and server devices (**Hudson, Abstract, Fig.1. The system disclosed by Hudson allows a more effective use of bandwidth, which mitigates the limitation in bandwidth available for a communication link through communication links with a number of stations. A more effective use of bandwidth results in faster speed in a communication system.**), which method comprises the use of a command protocol hosted by a controlling component (**Hudson, pg.5 ln13-19. The controller unit disclosed by Hudson selects the number of plurality of communications links in response to the quality criteria of the communication links, which is considered to be part of command protocols. As nodes in a network are considered to be programmable, it would have been obvious to one of ordinary**

Art Unit: 2109

skill in the art at the time the invention was made to have the controlling units host command protocols to control the communication as disclosed by Hudson and the applicant.), whereby the method comprises the following operations:

initiating a connection between the client device and the server device on the internet **(It is inherent that initiation of connection between client and server device is required for communication in the system disclosed by Hudson or any other communication systems.);**

creating a special connection over a number of available access networks to a merging/splitting component on the internet **(Hudson, Fig.1, pg.3 ln28-34, pg.4 ln.1-4, pg.4 ln.23-30. As shown in Fig.1 Hudson discloses a communication system where there are connections created among the network components, between the two merging/splitting components.);**

creating a connection between the merging/splitting component on the internet and the server device in the second location **(Hudson, pg.5 ln.32 – pg.6 ln.3, Fig.1, pg.3 ln.24-34, pg.4 ln.1-4. As disclosed by Hudson, a controller unit may be for distributing content data between a plurality of communication links, where the connection links the merging/splitting components on the internet. It is clear in the invention disclosed by Hudson that there are connections created between the merging/splitting components, which can be considered as the controller unit in the invention by Hudson, and the server device);**

splitting traffic from an application running on the client device in the first location itself (**Hudson, pg.3 ln. 25-34, pg.4 ln.1-4, pg.4 ln.23-29, pg.5 ln.32 – pg.6 ln.3, Fig.1.**);

transmitting the splitted data packets originating from the client device through a number of IP addresses across the internet (**Hudson, pg.5 ln.5-7**);

However, Hudson fails to disclose the use of transmission acknowledgement packets, for retransmission of missing data packets. Aharoni et al. teaches a system for audio and video streaming over a network where, when appropriate retransmitting unacknowledged packets or if appropriate switching a retransmission protocol over from one access network to another (**Aharoni, col.14 ln.14-17**);

merging the streams of packets originating from the client device through a number of IP addresses at the merging/splitting component on the internet (**Hudson, pg.5 ln.32 – pg.6 ln.3, Fig.1, pg.3 ln.24-34, pg.4 ln.1-4. Although Hudson fails to explicitly state that the data is merged upon arrival at the destination, it is inherent in that the data sent over simultaneous, multiple communications links are merged together upon arrival.**);

and forwarding the merged streams to the server device in the second location (**Hudson, Fig.1, pg.11 ln.20-22**); whereby any traffic from the server device to the client device follows the above steps in reverse functional order (**Hudson, Fig.1, pg.7 ln.16-24, pg.7 ln.30 – pg.8 ln.35**).

Regarding claim 2, **Hudson in view of Aharoni et al.** disclosed the limitations, substantially as claimed, as described in claim 1, and **Aharoni et al.** further discloses a

Art Unit: 2109

method of speeding up a relay operation across an internetworking connection according to claim 1, whereby the method further comprises the operation of monitoring the bandwidths over a number of access networks available to the client device with respect to the merging/splitting component on the internet and of responding to any change in the available bandwidth by generating control instructions for switching the connection at the client end for making maximum use of the available bandwidth (**Aharoni et al.**, col.3 ln.62 – col.4 ln.34, col.4 ln.38-ln.50).

Regarding claim 3, **Hudson in view of Aharoni et al.** disclosed the limitations, substantially as claimed, as described in claim 1, and **Hudson** further discloses a method of speeding up a relay operation across an internetworking connection according to claim 1, whereby there are multiple operations for merging the streams of packets originating from the server device through a number of IP addresses at the merging/splitting component on the internet and for splitting the traffic in the reverse direction (**Hudson**, pg.5 ln.32 – pg.6 ln.3, Fig.1, pg.3 ln.24-34, pg.4 ln.1-4.).

Regarding claim 4, **Hudson in view of Aharoni et al.** disclosed the limitations, substantially as claimed, as described in claim 1, and **Hudson** further discloses a splitting/merging device suitable for use with a client device in a first location or with a server device in a second location in a method of speeding up a relay operation according to claim 1, whereby the splitting/merging device comprises: means for interoperating with a connection between the client device and the server device on the internet (**Hudson**, pg.3 ln. 25-34, pg.4 ln.1-4, pg.4 ln.23-29, pg.5 ln.32 – pg.6 ln.3, Fig.1.);

Art Unit: 2109

means for creating a special connection over a number of available access networks between the splitting/merging device itself and a merging/splitting component on the internet (**Hudson, Fig.1, pg.3 ln28-34, pg.4 ln.1-4, pg.4 ln.23-30. As shown in Fig.1 Hudson discloses a communication system between two components.**);

means for splitting traffic from an application running on the client device in the first location into splitted data packets (**Hudson, pg.3 ln. 25-34, pg.4 ln.1-4, pg.4 ln.23-29, pg.5 ln.32 – pg.6 ln.3, Fig.1**);

means for transmitting splitted data packets across the internet through a number of IP addresses to the merging/splitting component on the internet (**Hudson, pg.5 ln.5-7, Fig.1**);

means for switching a retransmission protocol over from one access network to another (**Hudson, Fig.1, pg.7 ln.16-24, pg.7 ln.30 – pg.8 ln.35**);

means for merging the splitted data packets received at the merging/splitting component into a merged stream (**Hudson, pg.5 ln.32 – pg.6 ln.3, Fig.1, pg.3 ln.24-34, pg.4 ln.1-4. Although Hudson fails to explicitly state that the data is merged upon arrival at the destination, it is inherent in that the data streams sent over simultaneous, multiple communications links are merged together upon arrival.**);

means for forwarding the merged stream to the server device in the second location (**Hudson, Fig.1, pg.11 ln.20-22**);

optionally means for receiving a data stream from the server device in the second location (**Hudson, pg.5 ln.32 – pg.6 ln.3, Fig.1, pg.3 ln.24-34, pg.4 ln.1-4**);.

Art Unit: 2109

optionally means for splitting the data stream into splitted data packets (**Hudson, pg.3 ln. 25-34, pg.4 ln.1-4, pg.4 ln.23-29, pg.5 ln.32 – pg.6 ln.3, Fig.1**);

optionally means for transmitting splitted data packets across the internet through a number of IP addresses to the splitting/merging device (**Hudson, pg.5 ln.5-7, Fig.1**);

optionally means for switching a retransmission protocol over from one access network to another (**Hudson, Fig.1, pg.7 ln.16-24, pg.7 ln.30 – pg.8 ln.35**);

means for receiving the packets transmitted by the merging/splitting component across the internet to the splitting/merging device, and means for merging any splitted streams of packets transmitted by the merging/splitting component to the splitting/merging device (**Hudson, pg.5 ln.32 – pg.6 ln.3, Fig.1, pg.3 ln.24-34, pg.4 ln.1-4**).

Regarding claim 5, **Hudson** disclosed the limitations, substantially as claimed, as described in claim 4,

a splitting/merging device according to claim 4, whereby the device further comprises means for monitoring the bandwidths over a number of access networks available to the client device with respect to the merging/splitting component on the internet and means for responding to any change in the available bandwidth by generating control instructions for switching the connection at the client end for making maximum use of the available bandwidth (**Aharoni et al., col.3 ln.62 – col.4 ln.34, col.4 ln.38-ln.50**).

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hudson (WO 01/30039 A1), in view of Krueger et al. (US Patent#5,996,022).

Regarding claim 7, **Hudson** discloses a system for speeding up a relay operation across an internetworking connection, such as a TCP connection, between a client device in a first location and a server device in a second location in a network which comprises multiple access nodes or channels between said client and server devices, which system comprises at its client end, however does not explicitly state that proxy connections are used in the network. **Krueger et al.** discloses means for proxying connections between said client and server devices;

means for creating the proxied connection into multiple separate connections for different communication paths;

and means for routing these separate connections over said different communication paths (**Krueger et al.**, col.5 ln.12-28, claim 1. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Hudson and Krueger et al., to implement the functionalities of a proxy server, as the use of proxy servers are well-known in the art of communication networks, where a proxy server acts as a barrier between a network and a local area network (LAN), and also as a firewall.);

and **Hudson** further discloses a system where, intermediate to or at its server end: means for receiving traffic across said number of different communication paths and/or sending traffic across said different communication paths; respectively (**Hudson**, pg.5 ln.5-7, Fig.1, pg.4 ln.24-29, pg.6 ln.23-29);

means for merging said traffic into a merged stream (**Hudson**, pg.5 ln.32 – pg.6 ln.3, Fig.1, pg.3 ln.24-34, pg.4 ln.1-4. Although Hudson fails to explicitly state that

Art Unit: 2109

the data is merged upon arrival at the destination, it is inherent in that the data streams sent over simultaneous, multiple communications links are merged together upon arrival.) and forwarding the same (Hudson, Fig.1, pg.11 ln.20-22) through a single connection, and/or splitting traffic into different streams, respectively (Hudson, pg.3 ln. 25-34, pg.4 ln.1-4, pg.4 ln.23-29, pg.5 ln.32 – pg.6 ln.3, Fig.1);

and means for forwarding merged traffic to the server device, and forwarding traffic received from the server device onto said means to be forwarded by the latter as a single stream **(Hudson, Fig.1, pg.11 ln.20-22)** if and when appropriate splitted into traffic across said different communication paths, respectively **(Hudson, pg.3 ln. 25-34, pg.4 ln.1-4, pg.4 ln.23-29, pg.5 ln.32 – pg.6 ln.3, Fig.1, pg.5 ln.5-7, pg.6 ln.23-29).**

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hudson (WO 01/30039 A1), in view of Krueger et al. (US Patent#5,996,022), as applied to claim 7 above, further in view of Aharoni et al. (US Patent #6014694).

Regarding claim 8, Hudson in view of Krueger et al. disclosed the limitations, substantially as claimed, as described in claim 7, however, does not explicitly state that through monitoring of connection bandwidth, the connections are switched for maximum use of bandwidth. Aharoni et al. discloses a system whereby the system further comprises means for monitoring any bandwidth available over said separate communication paths; and means for responding to any change in the available bandwidth, which means generate control instructions for use by means for switching the TCP connection at the client end to make maximum use of the available bandwidth **(Aharoni et al., col.3 ln.62 – col.4 ln.34, col.4 ln.38-ln.50).**

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

- Martin Gilbert, WO 01/99379 A1, Secure Communications Method, discloses a secure communications method where the data is divided into fragment streams, which are sent through at least one digital communication network, and recombined to reproduce the digital message.
- Griffiths, US Patent# 5,913,038, *System and Method for Processing Multimedia Data Streams Using Filter Graphs*, where data streams are run through a multiplexer and a demultiplexer to efficiently process the multimedia data.

- Finney et al., US Patent #5,570,356, *High Bandwidth Communications System having Multiple Serial Links*, discloses a data communications system including a phase splitting circuit to split high speed parallel data into a number of individual parallel data, which is encoded, then decoded and synchronized for data recovery.
- Koehler et al., US Patent #6,650,660 B1, *Apparatus and Method for Synchronization of Multiple Data Paths and Recovery from Lost Synchronization*, discloses a system and method for transferring data from a source to a destination, where the data packets are split into multiple data packet portions and are transferred in parallel. The packets are recombined upon delivery.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward J. Kim whose telephone number is (571) 270-3228. The examiner can normally be reached on Monday - Friday 7:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin Lateef can be reached on (703) 272-5026. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2109

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EJK
08/08/2007

A handwritten signature in black ink, appearing to read "Marvin Lateef", written in a cursive style.

MARVIN LATEEF
SUPERVISORY PATENT EXAMINER